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ABSTRACT

The six studies reported on here sought to determine if patterns of behaviors could be determined in the verbal and nonverbal communications of teachers toward pupils, and if there were differences in these patterns when such variables as sex, race, ability, age, and socioeconomic status were considered. Videotapes of over 100,000 teacher/pupil interactions were analyzed using the Galloway-French IDER system for simultaneously categorizing verbal and nonverbal behaviors. Findings showed there were wide differences in teacher and pupil interactions and that these differences seem to relate to identifiable demographic and personal variables. In addition, results showed major differences in black and white nonverbal communication cues and indicated that the average student is discriminated against in the regular classroom setting. (DS)

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Comparisons of Teacher Verbal/Nonverbal Communications to Various Pupil Groups

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ABSTRACT

These six companion studies using similar methodology but different populations analyzed communication patterns between teachers/pupils in relation to selected demographic variables. Videotapes of teacher/pupil interactions (over 100,000) were analyzed using the Galloway-French IDER system for simultaneously categorizing verbal and nonverbal behaviors. Pupil groups included gifted, EMR, Adult Basic, "regular"; variables were age, sex, race, S.E.S. Teacher variables were sex, race and level taught.

Analyses were primarily ratios. Comparisons were made among studies.

Different communication patterns were related to the study variables. Black and white raters, when rating the same videotapes, rated similar verbal, but dissimilar nonverbal, interactions.

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"Comparisons of Teacher Verbal/Nonverbal Communications to Various Pupil Groups"

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In formal schooling, communication between teacher and pupil is "where it's at". The quantity and quality of classroom interactions influence the quality and quantity 1) of pupil learning (cognitive) and 2) of such things as pupil liking or disliking of teacher, subject and school (affective).

Classroom communications between teacher and pupil are verbal and nonverbal (1,7,9). To understand the classroom "climate" and the total communication impact, both verbal and nonverbal aspects of communication must be considered. Some current research and theory (1,9) suggest that verbal communication channels are more influential in cognitive learning while the nonverbal channels influence affective learning to a greater extent.

This paper reports a series of related studies conducted at the University of Tennessee, Knoxville between 1970 and 1978. The studies employed the same research design and methodology; each study used different populations of teachers and pupils. The basic objective of the studies was to see if patterns of behaviors could be determined in the verbal and nonverbal communications of teachers toward pupils, and if there were differences in these patterns when such variables as sex, race, ability, age, socio-economic status were considered. (See Figure 1 for elements of the IDER.)

The series represents repeated field studies that examined variables in situ; there was no attempt to manipulate variables. Teacher and pupil classroom interactions were videotaped. Interactions were analyzed using the French and Galloway IDER system of categorizing verbal and nonverbal behaviors simultaneously (7). The IDER incorporates Flander's (5) Interaction Analysis for verbal cues (the ID) and a categorization of nonverbal behaviors as either Encouraging or Restricting (ER). The system assumes that for each verbal communication there is a complementary nonverbal communication cue.

Populations for the studies ranged from intellectually gifted youngsters to juvenile delinquents with learning problems. Specifically, the studies (3,4,6,8,10,11) reviewed and analyzed teacher verbal and nonverbal communications toward. . .

1. . . . intellectually gifted elementary pupils (analyzed by sex of pupil).

2. . . . adjudicated delinquents (analyzed by teacher and pupil sex and race).

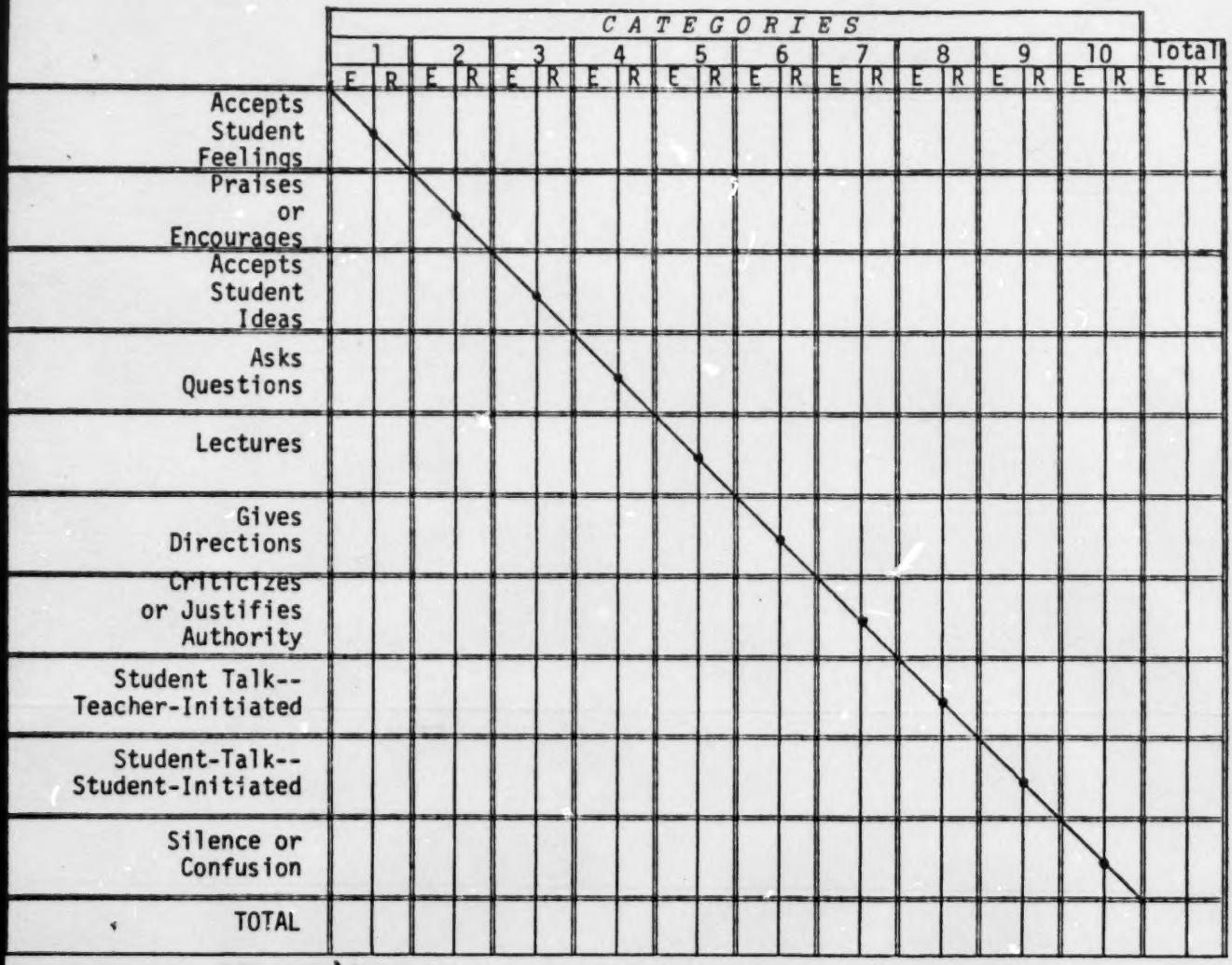
3. . . . adult basic education students and elementary and secondary pupils (same teachers in different settings).

4. . . . pupils of different socio-economic classes.

5. . . . EMR pupils in self-contained and in "mainstreamed" situations.

		VERBAL	*NONVERBAL*	
			ENCOURAGING	RESTRICTING
TEACHER TALK	Indirect Influence	1. ACCEPTS FEELINGS	1.	1.
		2. PRAISES OR ENCOURAGES	2. *CONGRUENT:* nonverbal cues reinforce and further clarify the credibility of a verbal message.	2. *INCONGRUENT:* contradiction occurs between verbal and nonverbal cues.
		3. ACCEPTS OR USES IDEAS OF STUDENTS	3. *IMPLEMENTATION:* occurs when the teacher actually uses student's idea either by discussing it, reflecting on it, or turning it to the class for consideration.	3. *PERFUNCTORY USE:* occurs when the teacher merely recognizes student's idea by automatically repeating or restating it.
		4. ASKS QUESTIONS	4. *PERSONAL:* face-to-face confrontation.	4. *IMPERSONAL:* avoidance of verbal interchange in which mutual glances are exchanged.
	Direct Influence	5. LECTURES	5. *RESPONSIVE:* change in teacher's pace or direction of talk in response to student behavior, i.e., bored, disinterested, inattentive.	5. *UNRESPONSIVE:* inability or unwillingness to alter the pace or direction of lecture disregarding pupil cues.
		6. GIVES DIRECTIONS	6. *INVOLVE:* students are involved in clarification or maintenance of learning tasks.	6. *DISMISS:* teacher dismisses or controls student behavior.
		7. CRITICIZES OR JUSTIFIES AUTHORITY	7. *FIRM:* criticisms which evaluate a situation cleanly and crisply and clarify expectations for the situation.	7. *HARSH:* criticisms which are hostile, severe, and often denote aggressive or defensive behavior.
STUDENT TALK		8. STUDENT TALK (RESPONSE)	8&9. *RECEPTIVE:* involves attitude of listening and interest, facial involvement, and eye contact.	8&9. *INATTENTIVE:* involves a lack of attending eye contact and teacher travel or movement.
		9. STUDENT TALK (INITIATION)		
		10. SILENCE OR CONFUSION	10. *COMFORT:* silences characterized by times of reflection, thought, or work.	10. *DISTRESS:* instances of embarrassment or tension-filled moments, usually reflecting disorganization and disorientation

Figure 1. Elements of the IDER System Showing Both the Verbal and Nonverbal Dimensions.



Revised IDER Matrix for Original Tally.

Figure 2.

Another study compared the ratings of white raters and black raters evaluating the same videotapes of behaviors of teachers toward adjudicated delinquents. (Rater reliability computations were controlled for sex.)

The data sources were videotapes of the teacher/pupil interactions. Over 108,000 behaviors of 78 teachers were analyzed. Arithmetic computations (e.g. ratios, mean) and some Chi-square procedures were used in analysis. Primary analyses were based on ratios (ratio of Encouraging to Restricting nonverbal cues; Indirect to Direct verbal cues) developed by categories of teachers and pupils. Comparisons were made between/among the studies. Data were collected on a matrix (Figure 2). Inter and intra-rater reliabilities were computed two ways. Although a level of .80 was considered, most reliability estimates exceeded .90.

Table I shows the number of behaviors analyzed for each study. Behaviors derived from analyses of video-tapes of teacher and student interactions, where the raters identified behaviors at three-second intervals and entered those behaviors on the data collection matrix (Figure 2). Data were transferred from the worksheet to machine-usable form and comparisons and analyses were made. Some detailed internal analyses based on such things as race and sex of teacher and pupil, pupil socio-economic status, giftedness, delinquency, etc., are of extreme benefit in understanding any single study, and, for that matter, in really understanding what is occuring in the comparative analyses. However, for this summary presentation we shall look only at some gross analyses.

In the Fowler study, the same teachers were observed both in Adult Basic Education teaching situations and in regular elementary and secondary classes. The ratios show that the teachers are set in their teaching ways; they don't change how they teach when they change audiences, except that they become a bit more restrictive (non-verbally) to adults than they are to youngsters.

Teachers of gifted (the Cosper study) and delinquents (the Crump study) give approximately the same ratio of E to R non-verbal cues to their pupils. Notice, however, that teachers of gifted engage in quite Indirect teaching verbal styles while teachers of delinquents are extremely Direct in their verbal teaching. Teachers of delinquents don't ask questions -- they tell people what to do, but smile while giving orders.

An interesting comparison is the London and Crump analysis shown at the bottom of Table I. London was a black female; Crump was a white female. Both analyzed the same data. Appropriate techniques were used to assure inter-rater reliability within the races. Crump's co-raters were white males and London's were black males. This maintained the integrity of race, but controlled for sex. As can be seen, both obtained essentially the same I/D ratio. This indicates that both heard the same thing. On the other hand, there is an extreme difference between the E/R ratios. This suggests that although blacks and whites may hear the same things in an interaction, they do not neccessarily see the same non-verbal cues when they are analyzing the same communication event.

These findings support the contention that a series of field studies is useful and provides baseline data. Our next step will be to generate hypotheses based on these initial studies, refine our methodology and instrumentation, and move to more sophisticated research.

TABLE 1. SUMMARY COMPARISON OF STUDY RATIOS (E/R, I/D, i/d) OF IDER STUDIES

Researcher	Teachers (N)	Student Population	Behaviors (N)	E/R Ratio	I/D Ratio	i/d Ratio
Cosper	4	Intellectually Gifted Fifth and Sixth Grades	8,648	13.18	1.05	0.94
Crump	25	Adjudicated Delinquents Elementary & Secondary	17,551	14.28	0.35	0.21
Fowler	12	Adult Basic Education	15,134	1.73	0.98	1.25
Fowler	12	Elementary & Secondary	15,294	2.55	0.97	1.28
Fullerton	8	Elementary with Mainstreamed EMR	3,241	72.66	0.90	0.90
		Regular		73.77	8.08	4.73
		Mainstreamed		372.00	0.96	0.53
Fullerton	6	Elementary Educable Mentally Retarded	2,889	61.80	0.75	0.46
Shepard	11	Upper, Middle & Lower Socio-economic Status Elementary & Secondary	12,914	2.07	0.47	1.90
* * *

Some Summary Findings (See Table I)

Among significant and interesting findings of the IDER studies are the following. There were wide differences in teacher and pupil interactions. These differences seem to relate to identifiable demographic and personal variables. There are major differences in black and white non-verbal communication cues; the "average" student is discriminated against in the regular classroom setting.

Teachers do differentiate among "regular" and EMR youngsters in their classrooms and use different communication patterns with them. Untrained teachers find it difficult to communicate verbally and non-verbally with EMR students (in effect, these students are isolated in a mainstream situation).

Both gifted youngsters and delinquent youngsters receive a higher proportion of encouraging nonverbal cues than restricting nonverbal cues; "average" youngsters received much lower proportions of encouraging to restricting nonverbal cues. Major differences between teacher communications to gifted and delinquent youngsters appear in the verbal cues. Teachers encourage gifted youngsters to engage in verbal interactions; teachers of delinquent youngsters discourage verbal interactions.

Teachers do not change their basic communication patterns when teaching adults (ABE) and elementary and secondary pupils; teachers do give different quality and quantity of communication cues to pupils of differing socio-economic statuses.

When white and black raters evaluate the same videotapes, the raters appear to 1) hear the same things (verbal), but 2) see different nonverbal behaviors (or evaluate what they see differently in terms of encouraging or restricting).

Let's look in more detail at some possible basic analyses. When individual data worksheets are examined there is opportunity for low inference gross analyses. For example, the data in figure 3 show that the white male gym teacher interacted 636 times during the data session. Ninety (or 14.1 percent) of these interactions were with the total class or to mixed groups so the raters could not identify the race of the individual(s); 540 (or 84.8 percent) of the interactions were with the 12 white males. Only six interactions (about 1 percent) were classified as being directly with the nine black males. If the pattern found in this class were representative (and if it could be found consistently) we might be able to make some high inference statements about the teachers and his interactions with pupils. As we amass more samples of teaching behaviors we are getting more and more confident of our ability to generalize and to generate some high inference statements about teacher/pupil classroom interactions under specified conditions.

TEACHER: White Male
Class: Boys Phys ED
RACE: 12 white
9 Black

Categories	1 Accepts Student Feelings		2 Praises or Encourages		3 Accepts Student Ideas		4 Asks Questions		5 Lectures		6 Gives Directions		7 Criticizes or Justifies Authority		8 Student Talk - Teacher Initiated		9 Student Talk - Student-Initiated		10 Silence or Confusion		E1
	E	R	E	R	E	R	E	R	E	R	E	R	E	R	E	R	E	R	E	R	
1. Boy-Black											4						2				6
2. Boy-White	2		22		26		76		44		142		6		202		20				540
3. Girl-Black																					
4. Girl-White																					
5. Race/Sex Not Identifiable			4				4		2		6	2			2		2		68		90
TOTALS	2	0	26	0	26	0	80	0	46	0	152	2	6	0	204	0	24	0	68	0	636

Figure 3. Individual Teacher Data Worksheet Showing Interactions by Major Classifications of Student Variables.

In this limited time, one other study deserves some additional comment. The London/Crump comparisons show quite clearly that different ethnic groups perceive nonverbal communication cues differently. Recall that in this series the female raters (one black and one white) analyzed the same videotapes of classroom behaviors. A comparison of I/D ratios (from Table 1) shows that they essentially heard the same verbal interactions (.391 and .386) but a comparison of the E/R ratios shows that they did not see the same things (40.180 and 11.696).

Careful internal analyses of the differences suggested that such things as use of space, eye contact, and other concerns may have accounted for some of the disparities. Since most advanced research has been done by Anglo Saxons, do we have a biased data base regarding the classroom interactions?

These studies raise several important questions which should be given consideration. Among them are: (1) When black and white observers are trained together as raters for observational studies (and are "forced" to achieve acceptable rater agreements), does the training process "wash out" cultural realities? (2) Can systematic observation instruments be designed to preserve aspects of culture in analyzing teacher behavior (i.e., within the instrument itself)? and (3) Can comparisons of ratings (where rater agreements have been achieved within two or more cultures) on observation systems lead to better understandings of cultural differences and communication? No reliability coefficients between major raters were computed originally. The main idea was to obtain satisfactory independent inter-rater agreements and then observe ratio similiarities/differences. The potential for computing separate-race inter-rater reliabilities and using them for more detailed analyses remains as an interesting challenge for future analyses. This approach might lead to better understandings of differences in nonverbal perceptions of different races.

REFERENCES

1. Achilles, C.M. and R. French. Inside Classrooms: Studies in Verbal and Nonverbal Communication. Danville: Interstate. 1977.

2. Brophy, J.E. and T. L. Good. Teacher-Student Relationships: Causes and Consequences. New York: Holt, Rinehart & Winston. 1974.

3. Cosper, Wilma Baker. "An Analysis of Sex Differences in Teacher-Student Interaction as Manifest in Verbal and Nonverbal Behavior Cues." Unpublished doctoral dissertation, The University of Tennessee, Knoxville, 1970.

4. Crump, Harriet B. "An Analysis of the Verbal and Nonverbal Behavior of Teachers Toward Adjudicated Delinquents." Unpublished doctoral dissertation, The University of Tennessee, Knoxville, 1974.

5. Flanders, N.A. "Teacher Influence in the Classroom" in E. Admion and J. Hough (Eds.) Interaction Analysis: Theory, Research and Application. Reading, Mass: Addison-Wesley. 1967.

6. Fowler, William R. "Comparative Analyses of Teacher Verbal and Nonverbal Behavior in Public School and Adult Basic Education Classrooms." Unpublished doctoral dissertation, The University of Tennessee, Knoxville, 1972.

7. French, R.L. and C.M. Galloway. "A Description of Teacher Behavior: Verbal and Nonverbal; Research in Education. 1969.

8. Fullerton, N. "An Analysis of Verbal and Nonverbal Behaviors of Teachers of Educable Mentally Retarded Students Mainstreamed and In Special Classes." Unpublished Doctoral Dissertation, University of Tennessee. 1978.

9. Galloway, C. "Teacher Nonverbal Communication". Educational Leadership. Nov. 1966.

10. London, Forestene L. "A Comparative Study of Black and White Oberver Perceptions of Videotaped Verbal and Nonverbal Behaviors of Black and White (Male-Female) Teachers in Schools for Adjudicated Delinquents." Unpublished doctoral dissertation, The University of Tennessee, Knoxville, 1975.

11. Shepard, Robert G. "An Analysis of Teacher-Nonverbal Behaviors as Exhibited Toward Pupils Representing Three Social Classes." Unpublished doctoral dissertation, The University of Tennessee, Knoxville, 1971.